NOAA
S 222

DOCKING PLAN GENERAL NOTES

1. ARABIC NUMERALS REPRESENT NAVIGATIONAL DRAFTS AND HEIGHT ABOVE BOTTOM OF FLAT KEEL AMIDSHIPS EXTENDED.
2. DIMENSIONS :
   (A) LONGITUDINAL LOCATIONS OF ALL ITEMS ARE GIVEN FROM THE STERN REFERENCE POINT (AFTER END OF MAIN DECK AT CENTERLINE).
   (B) HEIGHTS OF ALL ITEMS ARE GIVEN FROM THE BOTTOM OF THE KEEL AMIDSHIPS EXTENDED.
   (C) LONGITUDINAL LOCATIONS OF SIDE BLOCKS ARE TAKEN TO THE AFTER SIDE OF BLOCKS. HEIGHT OF SIDE BLOCKS ARE TAKEN TO THE AFTER SIDE OF BLOCKS AFT OF AMIDSHIPS AND TO THE FORWARD SIDE OF BLOCKS FORWARD OF AMIDSHIPS.
3. COMPLETE PAINTING OF HULL :
   (A) IN ORDER TO CLEAN AND PAINT THE ENTIRE BOTTOM OF THE VESSEL IN THREE SUCCESSIVE DOCKINGS. THE FOLLOWING POSITIONS OF THE VESSEL ARE NECESSARY:
      (1) POSITION NO.1
      AFTER END OF MAIN DECK (POINT OF REFERENCE) IS PLACED 43'–6 3/8" AFT OF AFTER SIDE OF NO.1 SIDE BLOCK.
      (2) POSITION NO.2
      AFTER END OF MAIN DECK (POINT OF REFERENCE) IS PLACED 45'–6 3/8" AFT OF AFTER SIDE OF NO.1 SIDE BLOCK.
      (3) POSITION NO.3
      AFTER END OF MAIN DECK (POINT OF REFERENCE) IS PLACED 41'–6 3/8" AFT OF AFTER SIDE OF NO.1 SIDE BLOCK.
   (B) REPEAT CYCLE OF POSITIONS ASCERTAIN FROM VESSEL THE POSITION OF VESSEL AT ITS LAST DOCKING.
4. DIMENSIONS OF OFFSET TABLES ARE GIVEN IN FEET, INCHES AND EIGHTS OF AN INCH.
5. KEEL BLOCKS SHALL BE CONFIGURED TO CLEAR DRAIN PLUGS.
6. BLOCKING :
   (A) BLOCKING SHOWN ON THIS PLAN IS THAT REQUIRED FOR BLOCKING UNDER ORDINARY UNDAMAGED CONDITIONS FOR 8'–0", 12'–0" OR 16'–0" SPACED BEARERS IN DRYDOCK.
   (B) KEEL BLOCKS :
      (1) KEEL BLOCKS SHALL BE ARRANGED IN PIERS CONSISTING OF THREE 14"x14" HARDWOOD TIMBERS MOUNTED WITH 2 INCH MIN THICKNESS SOFTWOOD CAP. BLOCKS LONGITUDINAL SPACING TO BE 6'–0" CENTER TO CENTER WITH 30 INCH CLEAR SPAN BETWEEN PIERS.
      (2) NO BLOCKS OR SHORES ARE REQUIRED UNDER ORDINARY CONDITIONS OF DOCKING UNDER THE BOW FORWARD OF FRAME 16 AND UNDER THE STERN AFT OF FRAME 81.
      (3) DOCKING POSITION NO.1 OMIT BLOCKS 6, 9 16, AND 19. REMOVE FWD 12" OF BLOCK 15.
      (4) DOCKING POSITION NO.2 OMIT BLOCKS 15 AND 16. REMOVE FWD 16" OF BLOCK 13.
      (5) DOCKING POSITION NO.3 OMIT BLOCKS 16 AND 19.
   (C) SIDE BLOCKS (SHOWN ON THIS PLAN IN ALL THREE DOCKING POSITIONS) ARE INDICATED FOR 8'–0" SPACED BEARERS (P) AND 12'–0" SPACED BEARERS (S).
      (1) SIDE BLOCKS SHALL BE LOCATED (P) AND (S) UNDER LONGITUDINAL BULKHEADS OFF CENTERLINE AS INDICATED ON TABLE OF OFFSETS IN ACCORDANCE WITH BEARER SPACING OF DOCK, EXCEPT AS NOTED.
      (2) SOFT WOOD CAPS ARE REQUIRED.
      (3) DIRECTION OF BEVEL ON BLOCKS IN 18" IS GIVEN ON "TYPICAL BEVELED BLOCK" SKETCHES (ZONE 110–A & 111–A) FOR FWD & AFT BLOCKS AND IN TABLE OF OFFSETS DIMENSION "C".
      (4) THE TABLES OF OFFSETS WILL PERMIT DOCKING FROM PLAN IN DOCKS WHICH HAVE 8'–0", 12'–0" OR 16'–0" BEARER SPACING. BLOCK SPACINGS 12'–0" OR 16'–0" ONLY ARE REQUIRED WHEN DOCKING VESSELS OFF CENTER IN DOCKS WHICH HAVE 8'–0" BEARER SPACING. IT IS PERMISSIBLE TO STAGGER THE BLOCKS USING ODD ON ONE SIDE AND EVEN ON THE OTHER.
      (5) SIDE BLOCKS ARE NUMBERED FROM AFT TO FORWARD WITH AFT BLOCK AS NO.1.
      (6) UNIVERSAL CAP SIDE BLOCKS MAY BE USED IN LIEU OF FITTED BLOCKS.
      (7) NO. 14 BLOCK FOR THE 8'–0" SPACED BARRIERS, AND NO. 10 BLOCK FOR THE 12'–0" SPACED BARRIER CONTACTS CAPASTIC SHIELD FOR THE FWD ANODE ASSEMBLY ONCE THE VESSEL HAS DOCKED.

CRITICAL DIMENSIONS

LENGTH OVERALL	208'–2 1/4"
LENGTH BETWEEN PERPENDICULARS	190' (MOLDED)
BREADTH (EXTREME)	45'–0 5/8"
FRAME SPACING	24"
FIRST SIDE BLOCK IS:	FROM AFT REF POINT
NO.1 DOCKING POSITION	43'–6 3/8"
NO.2 DOCKING POSITION	45'–6 3/8"
NO.3 DOCKING POSITION	41'–6 3/8"
END OF SKEG	25'–6 3/8"
HEIGHT OF MAST ABV 14'–0" WL	74'–0"
DRAFT – FULL LOAD	14'–0"

REVISIONS				
REV	ZONE	DESCRIPTION	DATE	APPROVED
A	ALL	INITIAL RELEASE. THIS DRAWING IS TAKEN FROM REFERENCE 1 & SUPERCEDES PAGES 11–15 OF THAT DRAWING. THIS DRAWING INCORPORATES FINDINGS OF A SHIP CHECK BY ECS IN JAN. 2024	25APR24	SLD

SHT	REV	TITLE
6	A	DOCKING PLAN OUTBOARD PROFILE, TYPICAL SECTIONS
5	A	DOCKING PLAN VIEW, DOCKING PLUG DETAIL, BEVELED BLOCK DETAILS
4	A	DOCKING PLAN LIST OF OPENINGS IN SHELL BELOW DWL, BEARING ON BLOCKS TABLE
3	A	DOCKING PLAN OFFSET TABLES, LIST OF DRAIN PLUGS, TABLE OF DISPLACEMENT
2	A	DOCKING PLAN GENL NOTES, L/M, OFFSET TABLES, CRITICAL DIMS, PROP TIP CLEARANCE TABLE
1	A	GENERAL NOTES, CRITICAL DIMENSIONS & SHEET INDEX

DRAWING INDEX

UNLESS OTHERWISE SPECIFIED
DIM ARE IN INCHES
TOL ON ANGLE ± 0.01°
INTERPRET DIM AND TOL PER ASME Y14.5M–2009

THIRD ANGLE PROJECTION

NO.	TITLE	REV	DRAWING NO.
1	BOOKLET OF GENERAL PLANS	H	TJ–085–002

REFERENCES

Marine Operations, Engineering Services
2002 Marine Science Drive
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(541) 867 8700

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Drawing Title
NOAA SHIP THOMAS JEFFERSON
DOCKING PLANS
GENERAL NOTES

Size	Drawing Number	Rev
D	TJ–085–003	A

Scale

Sheet 1 of 6

DWG: TJ–085–003 REV: A

PROPELLER TIP CLEARANCE TABLE

TRIM (INCHES)	BY	PROPELLER CLEARANCE INCHES FROM LOW POINT
6	BOW	5.6
0	EVEN KEEL	0.75
6	STERN	0.32
10 & GREATER	STERN	0

PARTS LIST

ITEM NO.	QTY.	SIZE	DESCRIPTION	MATERIAL	SPEC NO.	CODE IDENT	PART NO.	REMARKS	GR NO.	UNIT WT LBS
1	30	1 1/2"	PLUG, PIPE W/SQ SOCKET	BRZ						
2	30	1 1/2"	HALF COUPLING	SST						

TABLE OF OFFSETS FOR SIDE BLOCKS INTERVALS GIVEN IN INCREMENTS OF 8'–0"

NO.2 DOCKING POSITION–AFTER SIDE OF NO.1 BLOCK 45'–6 3/8" FROM AFT REF POINT

SIDE	BLK NO.	FWD OF REF PT	POINT A		POINT B		BEVEL IN 18" FOR C
			HB	HT	HB	HT	
P/S	1	45'–6 3/8"	7–9–0	3–6–4+	10–3–0	4–0–7+	–4 5/8"
P/S	2	53'–6 3/8"	7–9–0	1–9–1+	10–3–0	2–3–1	–3"
P/S	3	61'–6 3/8"	13–9–0	1–9–2	16–3–0	2–1–6	–2"
P/S	4	69'–6 3/8"	13–9–0	1–1–5+	16–3–0	1–4–5	–1 1/16"
P/S	5	77'–6 3/8"	13–9–0	0–10–5+	16–3–0	1–1–0	0
P/S	6	85'–6 3/8"	13–9–0	0–10–5+	16–3–0	1–1–0	0
P/S	7	93'–6 3/8"	12–9–0	0–9–6+	15–3–0	1–0–0+	0
P/S	8	101'–6 3/8"	12–9–0	0–9–6+	15–3–0	1–0–0+	0
P/S	9	109'–6 3/8"	12–9–0	0–9–6+	15–3–0	1–0–0+	0
P/S	10	117'–6 3/8"	12–9–0	0–9–7+	15–3–0	1–0–2	0
S	11	125'–6 3/8"	12–9–0	0–11–6	15–3–0	1–2–4	(–) 9/16"
P/S	12	133'–6 3/8"	6–9–0	0–7–3+	9–3–0	0–11–1+	(–) 5/8"
P/S	13	141'–6 3/8"	6–9–0	0–11–7	9–3–0	1–5–3	(–) 1 1/4"
P/S	14	149'–6 3/8"	6–9–0	1–7–5	9–3–0	2–4–1	(–) 2 1/8"

TABLE OF OFFSETS FOR SIDE BLOCKS INTERVALS GIVEN IN INCREMENTS OF 8'–0"

NO.1 DOCKING POSITION–AFTER SIDE OF NO.1 BLOCK 43'–6 3/8" FROM AFT REF POINT

SIDE	BLK NO.	FWD OF REF PT	POINT A		POINT B		BEVEL IN 18" FOR C
			HB	HT	HB	HT	
P/S	1	43'–6 3/8"	7–9–0	4–1–0	10–3–0	4–7–3	–4 7/8"
P/S	2	51'–6 3/8"	7–9–0	2–1–5	10–3–0	2–7–6+	–3 7/16"
P/S	3	59'–6 3/8"	13–9–0	1–11–7+	16–3–0	2–4–7	–2 3/16"
P/S	4	67'–6 3/8"	13–9–0	1–3–2	16–3–0	1–6–3+	–1 1/4"
P/S	5	75'–6 3/8"	13–9–0	0–10–7+	16–3–0	1–1–2	– 0 1/8"
P/S	6	83'–6 3/8"	13–9–0	0–10–5+	16–3–0	1–1–0	0
P/S	7	91'–6 3/8"	12–9–0	0–9–6+	15–3–0	1–0–0+	0
P/S	8	99'–6 3/8"	12–9–0	0–9–6+	15–3–0	1–0–0+	0
P/S	9	107'–6 3/8"	12–9–0	0–9–6+	15–3–0	1–0–0+	0
P/S	10	115'–6 3/8"	12–9–0	0–9–6+	15–3–0	1–0–0+	0
P/S	11	123'–6 3/8"	12–9–0	0–11–1	15–3–0	1–0–5+	(–) 1/2"
P/S	12	OMIT	–	–	–	–	–
P/S	13	139'–6 3/8"	6–9–0	0–10–4	9–3–0	1–3–4	(–)1 1/8"
P/S	14	147'–6 3/8"	6–9–0	1–5–2+	9–3–0	2–0–7+	(–)1 7/8"

TABLE OF OFFSETS FOR SIDE BLOCKS INTERVALS GIVEN IN INCREMENTS OF 12'–0"

NO.2 DOCKING POSITION–AFTER SIDE OF NO.1 BLOCK 45'–6 3/8" FROM AFT REF POINT

SIDE	BLK NO.	FWD OF REF PT	POINT A		POINT B		BEVEL IN 18" FOR C
			HB	HT	HB	HT	
P/S	1	45'–6 3/8"	7–9–0	3–6–4+	10–3–0	4–0–7+	–4 5/8"
P/S	2	57'–6 3/8"	13–9–0	2–3–1+	16–3–0	2–8–4+	–2 5/8"
P/S	3	69'–6 3/8"	13–9–0	1–1–5+	16–3–0	1–4–5	–1"
P/S	4	81'–6 3/8"	13–9–0	0–10–5+	16–3–0	1–1–0	0
P/S	5	93'–6 3/8"	12–9–0	0–9–6+	15–3–0	1–0–0+	0
P/S	6	105'–6 3/8"	12–9–0	0–9–6	15–3–0	1–0–0+	0
P/S	7	117'–6 3/8"	12–9–0	0–9–7	15–3–0	1–0–1	0
P/S	8	129'–6 3/8"	12–9–0	1–1–5	15–3–0	1–4–6	(–) 7/8"
P/S	9	141'–6 3/8"	6–9–0	0–11–7	9–3–0	1–5–3	(–)1 15/16"
P/S	10	153'–6 3/8"	6–9–0	2–1–3+	9–3–0	2–11–7+	(–) 2 3/4"

TABLE OF OFFSETS FOR SIDE BLOCKS INTERVALS GIVEN IN INCREMENTS OF 12'–0"

NO.1 DOCKING POSITION–AFTER SIDE OF NO.1 BLOCK 43'–6 3/8" FROM AFT REF POINT

SIDE	BLK NO.	FWD OF REF PT	POINT A		POINT B		BEVEL IN 18" FOR C
			HB	HT	HB	HT	
P/S	1	43'–6 3/8"	7–9–0	4–1–0	10–3–0	4–7–3	–4 7/8"
P/S	2	55'–6 3/8"	13–9–0	2–7–0+	16–3–0	3–0–6	–3 1/16"
P/S	3	67'–6 3/8"	13–9–0	1–3–2	16–3–0	1–6–3+	–1 5/16"
P/S	4	79'–6 3/8"	13–9–0	0–10–5+	16–3–0	1–0–0	0
P/S	5	91'–6 3/8"	12–9–0	0–9–6+	15–3–0	1–0–0+	0
P/S	6	103'–6 3/8"	12–9–0	0–9–6+	15–3–0	1–0–0+	0
P/S	7	115'–6 3/8"	12–9–0	0–9–6+	15–3–0	1–0–1	0
S	8	127'–6 3/8"	12–9–0	1–0–5	15–3–0	1–3–4	(–) 1/2"
P/S	9	139'–6 3/8"	6–9–0	0–10–4	9–3–0	1–3–4	(–) 1 1/8"
P/S	10	151'–6 3/8"	6–9–0	1–10–3	9–3–0	2–7–6+	(–) 2 7/16"

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LIST OF DRAIN PLUGS (IN SHELL)

NO.	SIDE	FWD OR AFT	FRAME	DIST OFF CL SHIP	TANK NAME	REMARKS
1	S	6" FWD	8	4"	FP BAL 4-0-0-W	
2	P	6" FWD	16	6"	BAL TK 4-8-2-W	
3	S	6" FWD	16	6"	BAL TK 4-8-1-W	
4	P	6" FWD	22	7"	DO TK 4-16-2-F	
5	S	6" FWD	22	7"	DO TK 4-16-1-F	
6	P	6" FWD	30	8'-6"	BAL TK 4-22-2-W	
7	P	10" AFT	28	6"	GREY WTR TK 4-28-0-W	
8	S	6" FWD	30	8'-6"	BAL TK 4-22-1-W	
9	P	6" FWD	30	6"	BAL TK 4-22-0-W	
10	P	6" FWD	34	6"	XDCR VOID 4-30-0-V	
11	P	6" FWD	43	8'-6"	DO TK 4-34-2-F	
12	P	10" FWD	43	6"	GREY WTR TK 4-34-0-W	
13	S	6" FWD	43	8'-6"	DO TK 4-34-1-F	
14	P	6" FWD	51	9'-6"	VOID 4-43-2-V	
15	P	6" FWD	55	6"	SEWAGE TK 4-43-0-W	
16	S	6" FWD	51	9'-6"	VOID 4-43-1-V	
17	P	8 3/4" AFT	55	9'-6"	DO TK 4-55-2-F	
18	P	6" AFT	55	6"	SEWAGE TK 4-55-2-W	
19	S	8 3/4" AFT	55	9'-6"	DO TK 4-55-1-F	
20	P	6" FWD	59	6"	SLUDGE TK 4-57-2-W	
21	S	6" FWD	59	6"	BILGE HOLDING TK 4-57-1-W	
22	P	6" AFT	59	6"	BAL TK 4-59-0-W	
23	P	6" AFT	75	9'-6"	DO TK 4-75-4-F	
24	P	6" AFT	75	42"	DO TK 4-75-2-F	
25	S	6" AFT	75	42"	DO TK 4-75-1-F	
26	S	6" AFT	75	9'-6"	DO TK 4-75-3-F	
27	P	6" AFT	87	9'-6"	VOID 4-87-2-V	
28	S	6" AFT	87	9'-6"	VOID 4-87-1-V	
29	P	6" AFT	65	6"	ENG RM 4-55-0-F	
30	S	6" AFT	87	6"	STRG GR RM 4-87-0-F	

TABLE OF OFFSETS FOR SIDE BLOCKS
INTERVALS GIVEN IN INCREMENTS OF 8'-0"

NO.3 DOCKING POSITION–AFTER SIDE OF NO.1 BLOCK 41'-6 3/8" FROM AFT REF POINT

SIDE	BLK NO.	FWD OF REF PT	POINT A		POINT B		BEVEL IN 18" FOR C
			HB	HT	HB	HT	
P/S	1	41'-6 3/8"	7-9-0	4-7-5+	10-3-0	5-2-0+	-5"
P/S	2	49'-6 3/8"	7-9-0	2-6-6	10-3-0	3-1-0+	-3 7/8"
P/S	3	57'-6 3/8"	13-9-0	2-3-1+	16-3-0	2-8-4+	-2 5/8"
P/S	4	65'-6 3/8"	13-9-0	1-4-7+	16-3-0	1-8-4+	-1 7/16"
P/S	5	73'-6 3/8"	13-9-0	0-11-4	16-3-0	1-2-0	-9/16"
P/S	6	81'-6 3/8"	13-9-0	0-10-5+	16-3-0	1-1-0	0
P/S	7	89'-6 3/8"	12-9-0	0-9-6+	16-3-0	1-0-0+	0
P/S	8	97'-6 3/8"	12-9-0	0-9-6+	15-3-0	1-0-0+	0
P/S	9	105'-6 3/8"	12-9-0	0-9-6+	15-3-0	1-0-0+	0
P/S	10	113'-6 3/8"	12-9-0	0-9-6+	15-3-0	1-0-0+	0
P/S	11	121'-6 3/8"	12-9-0	0-10-4+	15-3-0	1-1-0+	(-)5/16"
P/S	12	129'-6 3/8"	6-9-0	0-6-1	9-3-0	0-9-2	(-)7/16"
P/S	13	137'-6 3/8"	6-9-0	0-9-2+	9-3-0	1-1-6+	(-)7/8"
P/S	14	145'-6 3/8"	6-9-0	1-3-2	9-3-0	1-10-0+	(-)1 5/8"

TABLE OF OFFSETS FOR SIDE BLOCKS
INTERVALS GIVEN IN INCREMENTS OF 12'-0"

NO.3 DOCKING POSITION–AFTER SIDE OF NO.1 BLOCK 41'-6 3/8" FROM AFT REF POINT

SIDE	BLK NO.	FWD OF REF PT	POINT A		POINT B		BEVEL IN 18" FOR C
			HB	HT	HB	HT	
P/S	1	41'-6 3/8"	7-9-0	4-7-5+	10-3-0	5-2-0+	-5"
P/S	2	53'-6 3/8"	13-9-0	2-11-4	16-3-0	3-5-4	-3 1/2"
P/S	3	65'-6 3/8"	13-9-0	1-4-7+	16-3-0	1-8-4+	- 1 1/2"
P/S	4	77'-6 3/8"	13-9-0	0-10-5+	16-3-0	1-1-0	0
P/S	5	89'-6 3/8"	12-9-0	0-9-6+	15-3-0	1-1-0+	0
P/S	6	101'-6 3/8"	12-9-0	0-9-6+	15-3-0	1-1-0+	0
P/S	7	113'-6 3/8"	12-9-0	0-9-6+	15-3-0	1-1-0+	0
S	8	125'-6 3/8"	12-9-0	0-11-6	15-3-0	1-2-4	(-) 9/16"
P/S	9	137'-6 3/8"	6-9-0	0-9-2+	9-3-0	1-1-6+	(-) 1 1/16"
P/S	10	149'-6 3/8"	6-9-0	1-7-5	9-3-0	2-4-1	(-) 2 1/8"

TABLE OF DISPLACEMENT AND OTHER PROPERTIES FOR DOCKING

MEAN DRAFT (FT)	NO CORRECTION FOR TRIM					
	DISPLACEMENT (TONS) (SEA WATER)	APPROX.MOMENT TO CHANGE TRIM ONE INCH (FOOT TONS)	C B FWD OF STERN REF. POINT (FT)	TONS PER INCH IMMERSION (SEA WATER)	LONG CTR OF FLOATATION (FT)	
					AFT OF MIDSHIPS	FWD OF STERN REF. POINT
12.0	1725.15	170.26	98.77	15.76	4.57	91.96
12.5	1820.67	180.47	98.38	16.08	5.68	90.85
13.0	1918.15	190.96	97.97	16.39	6.76	89.77
13.25	1967.56	195.76	97.76	16.38	7.24	89.29
13.50	2017.34	200.18	97.55	16.67	7.64	88.89
13.75	2067.59	204.30	97.34	16.79	8.00	88.53
14.0	2118.16	208.36	97.12	16.91	8.35	88.18
14.25	2169.03	211.76	96.91	17.0	8.60	87.93
14.50	2220.18	215.15	96.70	17.10	8.85	87.68

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Size	Drawing Number	Rev
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Scale

LIST OF OPENINGS IN SHELL BELOW DWL

ITEM NO.	SERVICE	SIZE OF PENETRATION	SIDE	FWD OR AFT	FRAME	FWD OF AFT REF POINT	DISTANCE OFF CL SHIP	HEIGHT ABV KEEL BOTTOM
~~1~~	~~SONAR TRANSDUCER~~	~~10 13/16" DIA~~	~~P~~	~~6" FWD~~	~~4~~	~~184.03~~	~~12"~~	~~1'-2 3/16"~~
~~2~~	~~SONAR TRANSDUCER~~	~~10 13/16" DIA~~	~~S~~	~~6" FWD~~	~~4~~	~~184.03~~	~~12"~~	~~1'-2 3/16"~~
3	KNUDSEN 12 KHZ SOUND XDCR	9 7/8" SQ	P	13" AFT	30	130.20	7'-7"	5"
4	DOPPLER SPEED LOG	9 3/4" DIA	S	12" FWD	34	124.53	9'-0"	(2 1/2")
5	EM 2040/EM712 XDCR GONDOLA	2" DIA	CL	9" FWD	27	133.71	0	(18")
6	38 KHZ 12 KHZ 200KHZ TRANSDUCERS	2" DIA	P	12" AFT	32	126.55	6'-2 7/8"	(12")
7	KNUDSEN 12 KHZ SOUND XDCR	2" DIA	P	12" AFT	32	126.69	12"	0
~~8~~	~~BIOLITE SEA CHEST~~	~~4" DIA~~	~~S~~	~~12" FWD~~	~~32~~	~~128.53~~	~~19'-1"~~	~~0~~
9	SSSVS (#1) INLET	1 1/2" DIA	S	12" FWD	33	126.53	12"	0
10	SSSVS (#2) INLET	1 1/2" DIA	S	12" FWD	34	124.53	18'-2 5/8"	0
11	ANODE ASSEMBLY	3 1/16" DIA	P	12" FWD	21	150.64	13'-4"	4'-2 1/4"
12	ANODE ASSEMBLY	3 1/16" DIA	S	12" FWD	21	150.64	13'-4"	4'-2 1/4"
13	REFERENCE ELECTRODE	3 1/16" DIA	P	12" FWD	55	82.53	-	6'-6"
14	REFERENCE ELECTRODE	3 1/16" DIA	S	12" FWD	55	82.53	-	6'-6"
15	ANODE ASSEMBLY	3 1/16" DIA	P	-	78	35.53	16'-8 1/2"	8'-2 1/2"
16	ANODE ASSEMBLY	3 1/16" DIA	S	-	78	35.53	16'-8 1/2"	8'-2 1/2"
17	SEACHEST	24" x 24"	P	12" AFT	71	48.53	14'-0"	3'-7 3/4"
18	SEACHEST	24" x 24"	S	12" AFT	71	48.53	14'-0"	3'-7 3/4"
19	SEACHEST	10"DIA	P	12" AFT	81	28.53	6'-0"	8'-0"
20	WATER SCOOP	2"DIA	P	12" FWD	78	36.53	18"	3'-0"
21	3.5 KHZ TRANSDUCER	48" DIA	S	12" FWD	32	128.53	10'-11 7/8"	9 1/2"
~~22~~	~~BBADCP TRANSDUCER~~	~~9" DIA~~	~~S~~	~~12" FWD~~	~~33~~	~~126.53~~	~~7'-2"~~	~~(2 1/2")~~
~~23~~	~~SCIENTIFC SEA CHEST~~	~~15" x 6"~~	~~S~~	~~6" FWD~~	~~34~~	~~124.53~~	~~15'-8 1/2"~~	~~0~~
24	DYNAMIC DRAFT BUBBLE GAGE	2" DIA	S	12" FWD	34	124.53	0'-12"	0
25	ODOM 24/200 SOUND XDCR	9 7/8" SQ	S	13" AFT	30	130.20	7'-7"	5"
26	VALEPORT SOUND VEL SENS	4" DIA	S	7" AFT	33	117.00	2'-6 1/2"	0"
27	PIPE CONDUIT	10" DIA	P	7" AFT	32	115.00	12"	0"
28	ADCP	18" DIA	S	11.125" FWD	30	132.46	52"	(11")

BEARING ON BLOCKS TABLE

SUPPORT	BEARING ON SHELL PLATING		
	8'-0" SPACED BEARERS	12'-0" SPACED BEARERS	16'-0" SPACED BEARERS
SIDE BLOCKS 18" x 36" (TOTAL P & S)	13,500 SQ. IN. 93.75 SQ. FT	10,260 SQ. IN. 71.25 SQ. FT	7020 SQ. IN. 48.75 SQ. FT
KEEL BLOCKS 52" x 42" (18 EA)	20,412 SQ. IN. 141.75 SQ. FT	20,412 SQ. IN. 141.75 SQ. FT	20,412 SQ. IN. 141.75 SQ. FT
TOTAL BEARING	33,912 SQ. IN 235.5 SQ. FT	30,672 SQ. IN. 213.0 SQ. FT	27,432 SQ. IN. 190.5 SQ. FT
BEARING PER SQ. IN. BLOCKING	139.9 LB	154.7 LB	172.9 LB
BEARING PER SQ. FT. BLOCKING	8.99 TONS	9.94 TONS	11.12 TONS

NOTE:

KEEL BLOCK BEARING AREA BASED ON POSITION 3 (6 BLOCKS WITH 48 INCH WIDTH OF SHOE, 1 BLOCK WITH 36 INCH WIDTH OF SHOE, 1 BLOCK WITH 50 INCH WIDTH OF SHOE. 5 BLOCKS WITH 24 INCH WIDTH OF SHOE, AND 1 BLOCK WITH 1/2 INCH WIDTH OF SHOE). FULL LOAD DISPLACEMENT 2118 LT OR 4,744,320 LB

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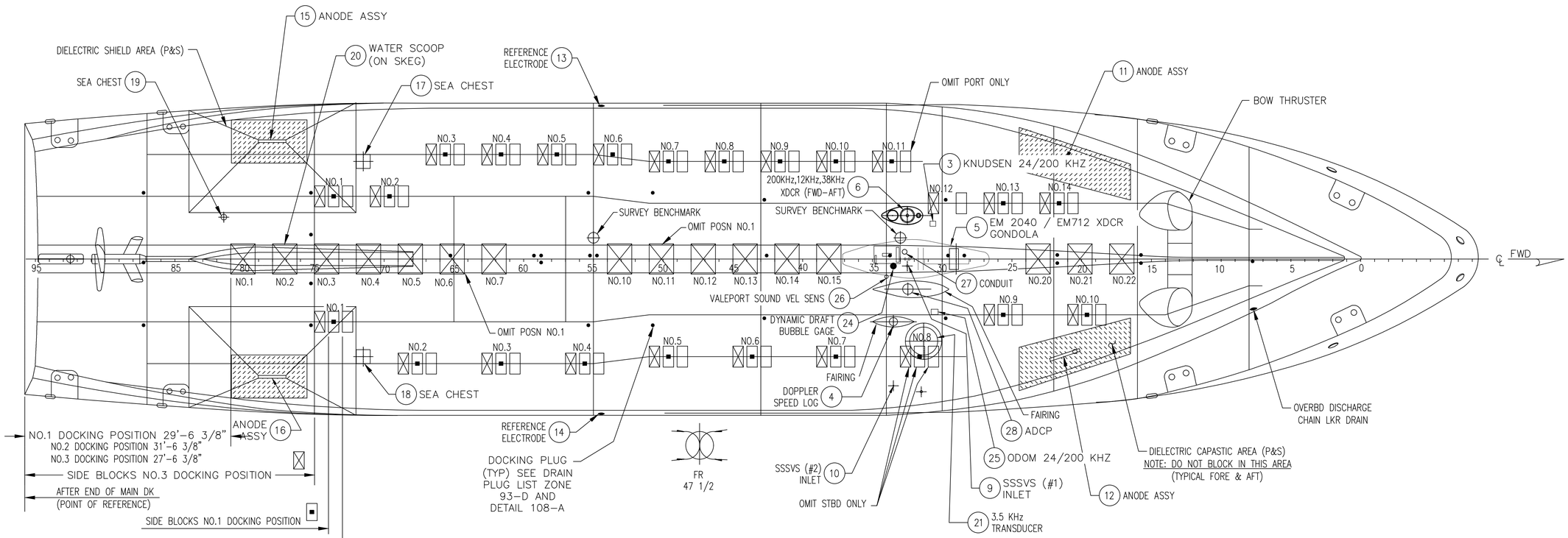
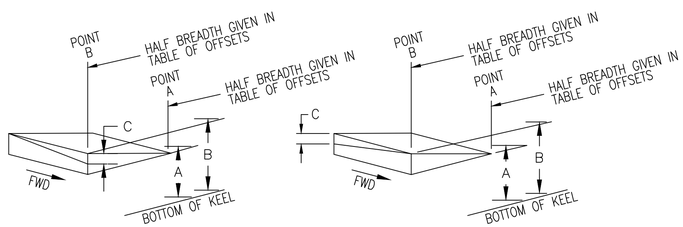
Scale


15 ANODE ASSY
DIELECTRIC SHIELD AREA (P&S)
20 WATER SCOOP (ON SKEG)
REFERENCE ELECTRODE 13
SEA CHEST 19
17 SEA CHEST
OMIT PORT ONLY
11 ANODE ASSY
BOW THRUSTER
3 KNUDSEN 24/200 KHZ
200KHz,12KHz,38KHz XDCR (FWD-AFT) 6
SURVEY BENCHMARK
OMIT POSN NO.1
5 EM 2040 / EM712 XDCR GONDOLA
27 CONDUIT
VALEPORT SOUND VEL SENS 26
DYNAMIC DRAFT BUBBLE GAGE 24
FAIRING
DOPPLER SPEED LOG 4
18 SEA CHEST
OVERBD DISCHARGE CHAIN LKR DRAIN
28 ADCP
25 ODOM 24/200 KHZ
DIELECTRIC CAPASTIC AREA (P&S)
NOTE: DO NOT BLOCK IN THIS AREA
(TYPICAL FORE & AFT)
9 SSSVS (#1) INLET
12 ANODE ASSY
21 3.5 KHz TRANSDUCER
SSSVS (#2) 10 INLET
OMIT STBD ONLY
REFERENCE ELECTRODE 14
DOCKING PLUG (TYP) SEE DRAIN PLUG LIST ZONE 93-D AND DETAIL 108-A
FR 47 1/2
ANODE ASSY 16
NO.1 DOCKING POSITION 29'-6 3/8"
NO.2 DOCKING POSITION 31'-6 3/8"
NO.3 DOCKING POSITION 27'-6 3/8"
SIDE BLOCKS NO.3 DOCKING POSITION
AFTER END OF MAIN DK (POINT OF REFERENCE)
SIDE BLOCKS NO.1 DOCKING POSITION
SIDE BLOCKS NO.2 DOCKING POSITION
FWD

PLAN VIEW 108-B

INTERVALS OF SIDE BLOCKING SHOWS 8'=0" ON PORT SIDE, 12'-0" ON STBD SIDE
KEEL BLOCKS IN POSITIONS NO. 2 & 3 NOT SHOWN FOR CLARITY
SEE G.N. #6
SCALE: 1/8"=1'-0"

NOTE: ITEM NUMBERS REFER TO LIST OF OPENINGS IN SHELL BELOW DWL TABLE, ZONE 98-D.



TYPICAL BEVELED BLOCK

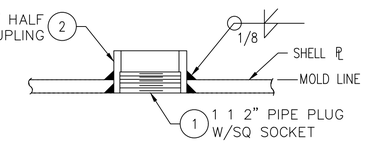
AFT BLOCK
SCALE: NONE

TYPICAL BEVELED BLOCK

FWD BLOCK
SCALE: NONE

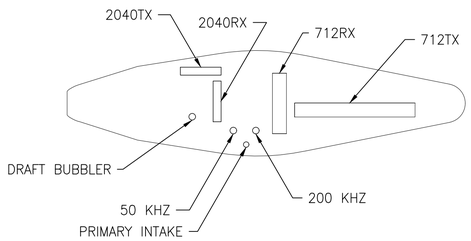
NOTE: EACH DOCKING PLUG (PC 1) IS TO BE PUNCH MARKED WITH THE NUMBER OF THE TANK THAT IT IS INSTALLED IN.

ITEM NUMBERS REFER TO PARTS LIST, ZONE 82-D.



DETAIL 108-A

DOCKING PLUG
SCALE: NONE



DETAIL 106-A

GONDOLA EQUIP LAYOUT
SCALE: NONE

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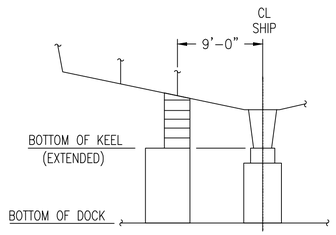
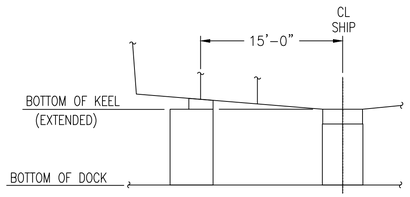
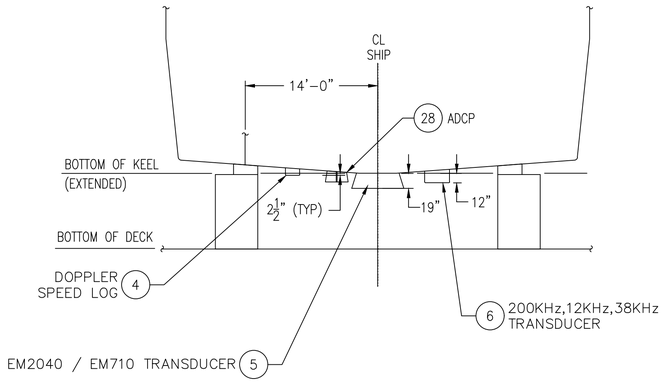


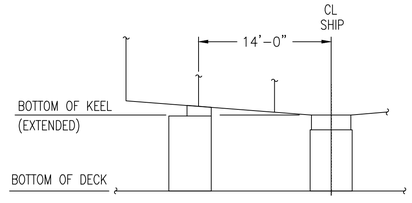
SECTION 119-C
FR 74 LKG AFT



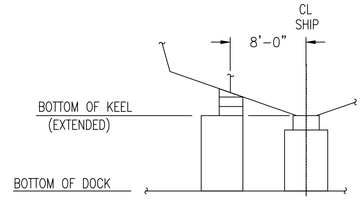
SECTION 118-C
FR 62 LKG AFT



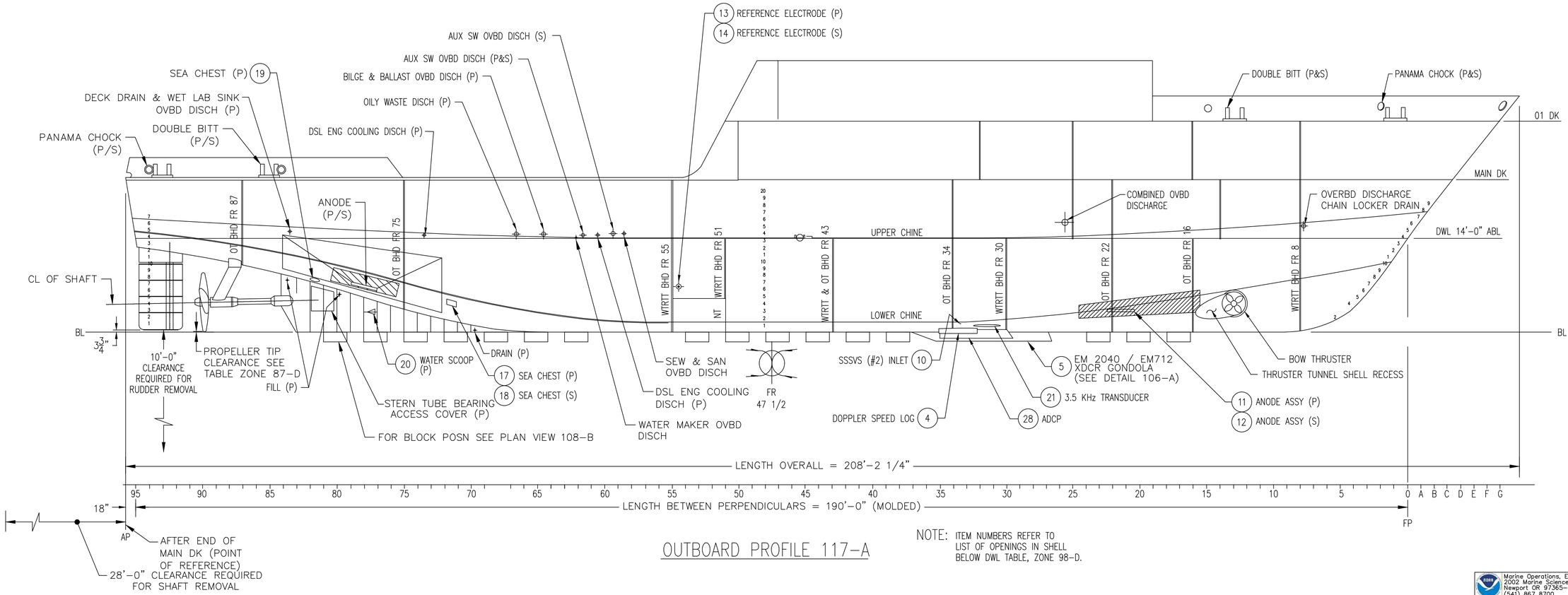
SECTION 116-C
FR 32 LKG AFT



SECTION 115-C
FR 38 LKG AFT



SECTION 113-C
FR 21 LKG AFT


13 REFERENCE ELECTRODE (P)
14 REFERENCE ELECTRODE (S)
AUX SW OVBD DISCH (S)
AUX SW OVBD DISCH (P&S)
BILGE & BALLAST OVBD DISCH (P)
OILY WASTE DISCH (P)
DSL ENG COOLING DISCH (P)
SEA CHEST (P) 19
DECK DRAIN & WET LAB SINK OVBD DISCH (P)
DOUBLE BITT (P/S)
PANAMA CHOCK (P/S)
DOUBLE BITT (P&S)
PANAMA CHOCK (P&S)
01 DK
MAIN DK
DWL 14'-0" ABL
UPPER CHINE
LOWER CHINE
OT BHD FR 87
OT BHD FR 75
WTRT BHD FR 55
NT WTRT BHD FR 51
WTRTT & OT BHD FR 43
OT BHD FR 34
WTRT BHD FR 30
OT BHD FR 22
OT BHD FR 16
WTRT BHD FR 8
ANODE (P/S)
COMBINED OVBD DISCHARGE
OVERBD DISCHARGE CHAIN LOCKER DRAIN
CL OF SHAFT
BL
3¾"
10'-0" CLEARANCE REQUIRED FOR RUDDER REMOVAL
PROPELLER TIP CLEARANCE SEE TABLE ZONE 87-D
FILL (P)
20 WATER SCOOP (P)
DRAIN (P)
17 SEA CHEST (P)
18 SEA CHEST (S)
STERN TUBE BEARING ACCESS COVER (P)
FOR BLOCK POSN SEE PLAN VIEW 108-B
SEW & SAN OVBD DISCH
DSL ENG COOLING DISCH (P)
WATER MAKER OVBD DISCH
FR 47 1/2
SSSVS (#2) INLET 10
DOPPLER SPEED LOG 4
5 EM 2040 / EM712 XDCR GONDOLA (SEE DETAIL 106-A)
21 3.5 KHz TRANSDUCER
28 ADCP
BOW THRUSTER
THRUSTER TUNNEL SHELL RECESS
11 ANODE ASSY (P)
12 ANODE ASSY (S)
BL FWD
LENGTH OVERALL = 208'-2 1/4"
95 90 85 80 75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 A B C D E F G
18"
AP
LENGTH BETWEEN PERPENDICULARS = 190'-0" (MOLDED)
FP
AFTER END OF MAIN DK (POINT OF REFERENCE)
28'-0" CLEARANCE REQUIRED FOR SHAFT REMOVAL

OUTBOARD PROFILE 117-A

NOTE: ITEM NUMBERS REFER TO LIST OF OPENINGS IN SHELL BELOW DWL TABLE, ZONE 98-D.

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